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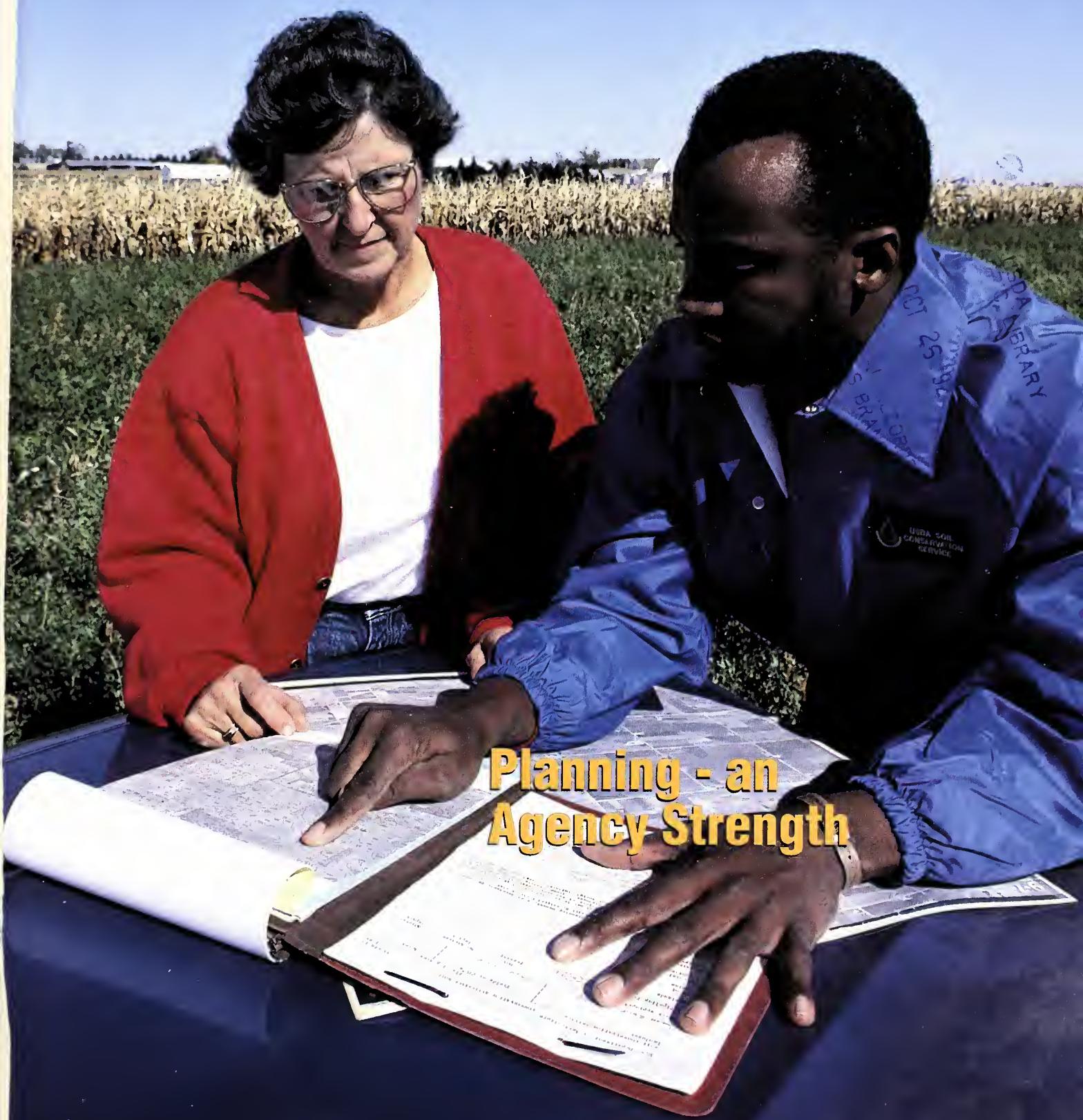
and Soil Water Conservation

United States
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Soil
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Planning - an
Agency Strength



Cover: Conservation planning and assistance to agricultural producers is one of Soil Conservation Service's strengths. While studying the conservation plan for her farm, Elizabeth Uthe of Mitchell County, Iowa, receives suggestions from SCS district conservationist Oscar Banks on how to best apply crop-residue practices on her acres. (Tim McCabe photo; 0992-01)

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Comments from the SCS Chief:

Living Up to Those Compliance Plans

If you have a conservation compliance plan, you are among the more than 1.2 million farmers working to protect highly erodible cropland. If you have fully implemented your plan, congratulations, and thank you!

If you haven't, please continue working with the Soil Conservation Service and your local conservation district to meet the year-to-year schedule specified in your plan. If you have friends or neighbors who haven't implemented their plans yet, please encourage them to do so.

Here are a few suggestions as you implement your plan: Quarterly, get out your plan and read it. Make sure you're on top of all the steps you agreed to take. Project ahead as to your cropping situation; contingencies for weather; and the availability of contractors, money, and cost sharing. If crop-residue management is part of your plan, make sure you know how to achieve and measure residue levels.

SCS is doing everything it can to help producers live up to their compliance plans. We're using all the flexibility the law allows us to be fair and understanding. And we'll continue to be flexible when nature doesn't cooperate or when a producer faces extreme personal hardship.

Our philosophy on compliance is this: It is *not* our job to tell farmers how to farm or to force practices. It *is* our job to help, to teach, to lead, and to set standards. It is also our job to ensure that those standards are met. And it is our responsibility under the law to spot-check compliance and to notify the Agricultural Stabilization and Conservation Service when we find producers not living up to the provisions of their plans.

But the best measure of success in conservation compliance is *not* how many people are caught doing something wrong: it is how many are doing things *right* and getting conservation on the land. Let me encourage all of us in agriculture to get the compliance job done and to look *beyond* the law and regulation—to the benefits of total resource planning and management—so we can be in a position to ensure that our operations are both economically and environmentally sound.



Chief

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Strategic Planning Guides SCS

WHAT AN organization is, what it does, and why it does it — these are the critical questions answered by strategic planning, a systematic process for making fundamental decisions and actions.

Strategic planning is based on a thorough appraisal that identifies opportunities and challenges in the organization's external environment and identifies the organization's internal strengths and shortcomings.

A technique for dealing effectively with change, strategic planning is an essential tool for an agency such as the Soil Conservation Service that must continuously adjust its programs and activities to respond to the needs of a dynamic society.

SCS first implemented formal strategic planning more than 20 years ago, although the term "strategic plan" was not applied to the process. The resulting document was called "A Framework Plan: Soil and Water Conservation for a Better America."

After completing the framework plan to guide its own activities, SCS increased its efforts to foster development of a consistent U.S. Department of Agriculture (USDA)

approach to resource conservation. Agreeing that this approach was needed, Congress and the Administration approved the Soil and Water Resources Conservation Act (RCA) of 1977.

The act directed USDA to ensure that its conservation programs consider both the short-term goals of individual landowners and land users and the long-term interests of the Nation. It authorized a continuing appraisal of soil, water, and related resources on non-Federal land to provide information needed to plan wise short- and long-term resource use.

USDA was directed to establish a system to address resource issues that cut across administrative boundaries—where solutions to resource problems must involve various agencies and levels of government. The act stressed increased accountability in public programs, requiring that USDA evaluate its conservation programs and report its progress in implementing the specific directions given in the act.

As the lead agency for the RCA process, SCS helped develop the strategies and set the resource priorities that make up the National Conservation Program (NCP). The NCP provides guidance for the conservation activities of eight USDA agencies. The NCP was established in 1982 and updated in 1988.

The RCA process helped make the general public more aware of natural resource management problems. In response to increased public concern, a conservation title was included in the 1985 farm bill, the Food Security

Act. That statute and the conservation title of the 1990 farm bill—the Food, Agriculture, Conservation, and Trade Act—have given SCS an unprecedented opportunity to assist landowners in getting conservation on their land. They also required SCS employees to shoulder an increased workload and meet demanding deadlines while adjusting to a new role and a new relationship with traditional clients.

The second cycle of the RCA/NCP process, the 1988-97 NCP, established erosion reduction and water-quality protection as USDA's top resource priorities, set a goal of serving minority and limited-resource clients better, and focused attention on development and adoption of improved technology. SCS developed strategic initiatives to address these issues. These first strategic initiatives for the 1990's included farm bill implementation plans, the water-quality initiative, the 1890's initiative, the work-force diversity initiative, and the information systems plan.

The 1988-97 NCP was developed with little input from the field and State levels because the agency's full attention was devoted to meeting the compliance deadline set by the Food Security Act of 1985.

In 1991, with the deadline successfully met, SCS turned its attention to conducting a more comprehensive internal strategic planning process to develop a consensus about the agency's future directions. The Chief, and his staff, State conservationists, national technical center directors, and na-

tional headquarters division directors participated directly in the process.

State conservationists kept the field informed and ensured that the concerns of field staff were conveyed to the Chief. All employees were asked to comment on a draft of the strategic initiatives report. The Chief and his staff consulted extensively with representatives of the National Association of Conservation Districts,

farm groups, State conservation agencies, environmental groups, and USDA agencies to define the needs and expectations of SCS clients.

As a result of this process, SCS has framed a **vision** for the future, redefined the agency's **mission**, and reaffirmed the principles that guide agency activities. It has identified critical issues facing the agency and developed **strategies** to address them.

A Vision of the Future: The agency's new vision builds on the visions articulated by agency leaders in the past. It emphasizes the interdependence of resource use and resource protection. It is based on the belief that productive agriculture and a quality environment are complementary goals. Progress in realizing this vision depends on the adoption of public policies and private management



SCS conservation planners deliver technical assistance and other information to such clients as wheat growers in Washington's Palouse region who now use no-till planting to help reduce erosion. (Tim McCabe photo; 0992-02)

systems based on the concept of total resource management.

An Expanded Mission: The new, revised mission emphasizes that SCS's concern is the whole environment, not just cropland and agricultural land. It represents a consensus on the compliance responsibility assigned to the agency in the 1985 farm bill, the Food Security Act. This new responsibility is compatible with traditional SCS values. The agency respects the rights of the individual landowner and land user. In turn, the landowner has the responsibility to conserve and use resources wisely. The agency will administer the compliance function effectively and fairly.

Strategies for Shaping the Future: The strategies define actions that the agency must take to enhance its capability to provide high-quality services to meet the country's needs for resource conservation.

The agency must become more effective in reaching out to form coalitions with organizations and individuals who may not be part of the traditional conservation partnership but have a stake in resource use and protection.

The new strategic initiatives, along with previously implemented initiatives on technology development and work-force diversity, address those needs. Additional

Key Elements of the SCS Strategic Plan

Vision

A productive Nation in harmony with a quality environment.

Mission

The mission of the Soil Conservation Service is to provide leadership and administer programs to help people conserve, improve, and sustain our natural resources and environment.

Guiding Principles

We value:

- Our employees;
- Our customers;
- Our colleagues;
- Our partners;
- Our volunteers;
- Our Nation's natural resources; and
- Science-based technology.

We will:

- Provide quality service;
- Provide services to all clientele equally;
- Advocate natural resource management;

- Support practical, voluntary solutions to natural resource problems;
- Deliver the best available resource technology;
- Promote strong partnerships and teamwork;
- Deliver programs in cooperation with other Federal, State, and local entities;
- Provide a quality work environment for our diverse work force; and
- Cooperate with conservation districts and State conservation agencies to deliver services.

Strategies

- Anticipate key natural resource issues and propose effective policies to address them.
- Encourage voluntary solutions to natural resource problems. Fairly and efficiently administer regulatory roles legislated or delegated to the agency.
- Advocate total resource management.
- Promote the efficient management of water and the enhancement of its quality.
- Maintain a highly skilled, diverse work force capable of providing quality, customer-oriented service.

initiatives will be developed to respond to the changing needs of SCS clients.

A Continuing Process: SCS is developing and implementing action plans for each strategy. Progress reports to date have been prepared. These activities mark the end of one phase in the strategic planning process and the beginning of another.

Strategic planning will be an ongoing process to ensure that SCS provides leadership to the conservation partnership and plays an active role in shaping a conservation agenda for the future.

Emma Corcoran, program analyst, SCS, Washington, D.C.

“Marketing should be on everyone’s agenda in SCS.”

SCS Maps Marketing Plan

WRAPS WILL soon come off the final draft of a Soil Conservation Service strategic marketing plan for agency programs and services. Available for comment this Fall, the plan will emphasize SCS coalition-building with conservation and agricultural groups that have similar aims.

“We have redefined our vision and our mission to reflect current environmental and economic needs,” noted SCS Chief William Richards. “Let’s take the opportunity to help society understand that SCS is more than a soil erosion control agency—that it is a total resource management agency.”

The purpose of the strategic marketing plan is to enlist others in promoting conservation and sound management of our natural resources. Working together helps SCS do a better job of highlighting the need for conservation for the American public.

A cross section of SCS employees—headed by Chief Richards and including representatives of his staff, State conservationists, deputy State conservationists, division directors, regional public affairs specialists, and field offices—make up the national SCS Strategic Marketing Work Group. The group, aided by a team of staff



Marketing panelist Dale Darling, left, enlarges on his theme of making a commitment to change to Ron Francis of the National Association of Conservation Districts. (Gene Alexander photo; 0992-03)

Panelist Carey Conway of the U.S. Forest Service, right, discusses marketing with Dot Abbott-Donnelly, SCS Delaware public affairs specialist, who acted as afternoon host. (Gene Alexander photo; 0992-04)

members on detail, has met over a period of 9 months to brainstorm ideas and work out marketing plan specifics.

“There can be a big gap between public attitudes and behavior concerning the environment,” noted Frank Clearfield, marketing team member and SCS national sociologist. His early information-gathering report to the marketing group



portrayed an American public that is becoming increasingly supportive of environmentalism, but that often fails to change its behavior to reflect that support. It is also a

Marketing Conservation

"Marketing Conservation" was the theme of SCS's April National Information Conference held in Denver, Colo.

"Make a commitment to change, first for yourself and then your organization," exhorted panelist Dale Darling, of Dupont, and chairman of the Conservation Technology Information Center (CTIC) Executive Committee.

"Agriculture has had an unwritten contract with society to produce food and fiber," said Darling. "Rarely has society challenged the cost of the contract or the impact on its environment, but that is changing." He cautioned the audience to make sure that it is listening carefully to society's needs and demands.

Panelist Jane Ross, SCS public affairs specialist for marketing,

described how the SCS marketing detail targeted 35 primary market audiences that are potential SCS allies in promoting conservation.

"We asked each of the 35 organizations about their goals and philosophy," Ross said. "When we compiled the answers, we had a computerized data base of vital marketing information that will be available as an agency management tool."

Later in the week SCS audience members got to give their input to the marketing effort. The opinions gathered through two focus groups will serve as useful background for planning SCS marketing strategies.

Panelist Mike McDermott, marketing program manager for the U.S. Geological Survey's National Mapping Division, described how an open house at the Survey's national headquarters in Reston, Va., draws 5,000 to 10,000

visitors annually. "Some 200 employees become involved in communicating with the public," he said.

Michelle Hartz, senior vice president of the Powell Tate public relations firm, urged SCS to help others perceive the agency as unique, irreplaceable, and indispensable.

Hartz offered a summary of the marketing panel's comments: "There are three recurring themes: the need for change, the acknowledgment that perception is reality, and the need for coalition-building." Of the last, she noted, "We are not alone. We are very dependent on those around us who speak for us—and of us."

"There is a strong need for partnership marketing, using third parties to help sing our song," said Hartz, calling this a "take-home" message for the audience.

public that knows very little about SCS.

Perhaps the most dramatic success story of SCS marketing to date has been the national leadership role SCS has taken to implement a crop-residue management marketing initiative.

First, SCS, with industry, the farm media, other USDA agencies, and the Conservation Technology Information Center (CTIC), identified producers who farm highly erodible land to reach with messages about crop-residue management techniques.

Next, SCS, CTIC, and the National Association of Conservation Districts (NACD) produced management kits to help farmers leave an adequate amount of crop residue on their corn, soybean, and small-grain fields. NACD sells the kits.

Then conservation organizations, other USDA agencies, agribusiness groups, commodity organizations, and other groups gave targeted audiences a wealth of information about crop-residue management.

Results of the marketing effort included a large number of articles

that appeared in farm journals about crop-residue management techniques and a national educational workshop. SCS will continue to cooperate with conservation organizations to make farmers and others aware of crop-residue management.

Marketing, which has been defined as a mentality or ethic that anticipates customer needs and identifies products and services to satisfy those needs, will soon be a familiar SCS mentality. Chief Richards has emphasized, "marketing should be on everyone's agenda in SCS."

Mary Jo Armstrong, associate editor, *Soil & Water Conservation News*, SCS, Washington, D.C.



Mike McDermott of the U.S. Geological Survey spoke about government marketing operations. (Gene Alexander photo; 0992-05)

The "new" manual will assist SCS planners in using the planning process to deliver technical assistance for all types of clients and resource problems.

SCS Planning Aid To Be Guided by New Texts

FIELD OFFICE conservationists will soon improve their total resource management planning assistance to landowners and producers with the aid of a new Soil Conservation Service planning manual and handbook.

In preparation now at SCS national headquarters is the national planning manual, a concise document that will contain planning concepts and policy.

And in preparation by SCS national technical centers is a larger document, tentatively called the national planning procedures handbook, that will more specifically guide field office staffs with planning procedures. This is especially vital

with the broader, more varied conservation measures being implemented through total resource management.

Work on these documents began in 1988. As part of the manual, SCS established a nine-step planning process for SCS staffs to follow in providing technical assistance to individuals and groups (see below). Final products are anticipated in early 1993; they will replace the national conservation planning manual that SCS has been using since 1978.

The "new" manual will assist SCS planners in using the planning process to provide technical assistance to all types of clients and for all types of resource problems.

The handbook will have specific procedures to help SCS conservationists plan resource conservation more effectively. This will include land and water uses to consider, processes to use in identifying resource problems, ways to make resource inventories, and how to develop alternative solutions to identified problems.

For example, to inventory the resources, the SCS planner looks up

sources of information, looks at the farm, and asks the farmer questions. Sources of information include soil maps, topographic maps, aerial photos, underground utility maps, wetland inventories and determinations, and county-level resource inventories. After resource problems are identified and agreed upon, the planner and the farmer can begin to develop alternative solutions.

New SCS employees can use the manual and the handbook as learning tools to more fully understand the SCS planning concept and process. Experienced employees can use them as refresher documents.

With the manual and the handbook—plus the field office technical guide and the field office computer system—SCS conservationists can more efficiently use an organized and coordinated approach and apply it nationwide in planning and application. This takes on added importance as SCS enters the area of total resource management planning.

Five resources—soil, water, air, plants, and animals—are all considered, as well as social, economic, and cultural aspects. Soil erosion control, water-quality treatment, nutrient management, and pest management can all be incorporated into conservation plans through the total planning concept.

The national planning manual and the national planning procedures handbook are being set up to use the total resource management approach that will further help conservation planners in SCS field offices better meet their clients' needs.

Nine Steps in Planning

This will be used whenever SCS provides technical assistance to producers or land users. Capsulized explanations of the steps follow.

- **Identify problems.** Verify those described by the client; check for additional problems.
- **Determine objectives.** Consider client expectations, SCS policies and requisites, and market and community values.
- **Inventory available resources.** Gather and prepare data.
- **Analyze resource data.** Ask questions such as "do the data verify

problems or support possible solutions?"

- **Formulate alternative solutions.** Use conservation practice physical effects that meet field office technical guide criteria.
- **Evaluate alternative solutions.** Study cost-effectiveness and any negative effects.
- **Makes decisions.** Client considers all information and available assistance programs and cost-sharing.
- **Implements plan.** Client has adequate information to implement, operate, and maintain planned treatments.
- **Evaluate results.** Monitor progress and assess success.

Karl H. Reinhardt, national planning leader, SCS, Washington, D.C.

Sweetening Bardstown's Waters

THANKS TO THE Soil Conservation Service's holistic planning process and water quality proposals, the sweet taste of water and a storied bit of Americana will be rejuvenated in the Sympson Lake area, near Bardstown, Ky.

The genteel, softly southern community of Bardstown has been tasting success for over 140 years. About then, it is said, that songwriter Stephen Foster felt the warmth of the morning sun while he rested here on a nearby knoll. This inspired him to pen a song of historic Americana, "My Old Kentucky Home."

Sympson Lake was once the jewel of this watershed: serene of look and sweet of taste. It is Bardstown's sole source of surface-water supplies for multiple uses. But in recent years, the taste of the lake waters has become anything but pleasing.

Water levels on the lake fluctuated and affected water quality. Bad taste and odors were a continuous, raw-water problem. Despite 10 years of studies by universities and private firms, workable solutions remained elusive, and so did the return of pleasing water.

The SCS study of the lake and its 5,700-acre watershed took less than a year. In early 1992, the Kentucky State office staff provided



Coleman Gusier, SCS civil engineer, left, and Don Canary, SCS area engineer, collect bottom samples of silt from Sympson Lake, Ky. Various nutrients attached to soil particles can cause water-quality problems. (Deena Wheby photo; 0992-06)

Bardstown community leaders with a water-quality management plan that dealt with problems, solutions, and costs. They call the plan "holistic and program neutral."

SCS used a planning process that involved a diversity of expertise, assistance, and leadership. With the holistic approach, planners identified all natural resource and other concerns. They then determined cause/effect relationships and produced alternative solutions.

There were agriculture-related concerns, but the more prominent factors contributing to the deleterious water quality included: 1) bacteria from septic systems, 2) erosion from urban construction, 3) chemicals used on power line rights-of-way, 4) nutrients spread by motor boat use, and 5) dumping of trash. Surprisingly, less than 3 percent of the lake's water volume was replaced by sedimentation deposits.

Some solutions involved SCS assistance, while others did not. SCS helps its clients apply land treatment, install animal-waste facilities, plant trees and shrubs, build water structures, and become informed about soil and water conservation. Through the plan, community leaders learned about alternative solutions for those other factors now affecting the water's taste.

With these management tools to resweeten the quality of their community's water supplies, Bardstown leaders are deciding now which concerns to address and which solutions to implement. And SCS will be there to help them. Stephen Foster would have been proud.

Barbara C. Mayerick, management analyst, **Jeff Norville**, resource conservationist, and **Gary Kobylski**, public affairs specialist, SCS, Lexington, Ky.

"To successfully market water quality, we must know whom we're serving and why they want the products we offer."

Marketing Conservation In Wisconsin

HE MARKETING planning process helped us find our niche in the conservation industry," according to Greg Hines, project coordinator, U.S. Department of Agriculture (USDA) Water Quality Demonstration Project-East River, Green Bay, Wis. "We were able to identify our key customers, and the products and services they need that we can offer better than anyone else—right now."

The "business" is called the East River Watershed Company. The marketing plan identifies three divisions in the company: Demonstration Division, Priority Watershed Division (a State-funded water quality program), and Maintenance Division. The latter includes the USDA's Agricultural Stabilization and Conservation Service, Extension Service, and Soil Conservation Service; the county Land Conservation Department; the farm service industries; and independent consultants.

The key customers are dairy farmers with existing manure storage structures. By focusing on this group, the Demonstration Division complements instead of duplicates the State watershed project and the local SCS field office efforts. The demonstration project can accomplish more by focusing on a small group with big needs.

The Demonstration Division offers products and services similar to any other business:

- Products: nutrient management plans, integrated crop management systems, and erosion reduction systems;
- Services: whole farm nutrient management planning, manure analysis, soil analysis, field scouting, troubleshooting (solving problems), training, risk reduction, demonstration test plots and analysis, and information and education activities.

At the onset, the demonstration project ran up against a couple of obstacles: how to fit in among local, State, and Federal conservation programs already in place; and how to meet its goal of reducing phosphate loading to Green Bay—in the short time allotted.

Project employees decided to develop a marketing plan, perhaps the same way a new business starting up would. Many answers emerged while they worked through the planning process.

The Maintenance Division will continue to provide the products and services identified in the marketing plan when the demonstration and State watershed projects phase out.

"Eventually, we want our client to become self-sufficient and begin to demand nutrient management assistance from the farm service industries (co-ops) as well as other divisions of the company," said project coordinator Hines.

"The most important part of a marketing plan is the client profile. To successfully market water quality, we must know whom we're serving and why they want the products we offer."

Finally, the marketing plan addresses communications. "We need to use the media and a variety of advertising to reach our clients," said Hines.

For more information or a copy of the marketing plan, contact the Water Quality Demonstration Project-East River, 1221 Bellevue Street, Suite 113, Green Bay, WI 54302-2155; telephone 414/391-3923.

Renae Anderson, public affairs specialist, SCS, Madison, Wis.

SCS Fights Oakland Fire Effects

WITH THE WIND still whipping the Oakland firestorm up hills and down canyons last October, Soil Conservation Service district conservationist Al Cerna, Livermore, Calif., was already

Steep hillsides made bare by the Oakland firestorm brought the threat of soil erosion, which could block waterways. (Tim McCabe photo; 0992-07)



explaining to Oakland officials how the Emergency Watershed Program (EWP) works. Officials readily agreed that they would need SCS help, funded through the EWP, for after-fire recovery work.

Within 48 hours, Cerna, working with the Alameda County Resource Conservation District and the City of Oakland administration, assembled an interagency group to tour the burn site. They recommended ways to stabilize slopes

Over 850 acres of critical area were stabilized by hydroseeding with specially mixed seed. (Tim McCabe photo; 0992-08)



A year later, the lush green Oakland hills, flecked with orange and blue wildflowers, look like a hiker's delight...



Reaching the Media by Fax and Phone

Among the varied workers needed to heal a damaged watershed are communications professionals, whose job is to explain "what's happening" to those awaiting the prognosis. People want and need to know what the Government is doing to help, but getting out a positive story can be a challenge.

SCS public affairs specialist Anita Brown joined information staffs from the City of Oakland and other Government agencies to keep updates flowing following last fall's devastating fire. Their target was the public: the displaced homeowners, the San Francisco Bay area residents, and the American people.

New technology helped the information staff get the story out quickly, resulting in more than 30 television news stories, at least as many newspaper articles, and dozens of radio interviews.

"In dealing with the media, if you can't be reached, you won't be a player," said Brown. "This prompted me to persuade our Emergency

Watershed Protection director to approve purchase of a mobile phone for the public affairs staff. It enabled us to be available for followup questions after we had issued news releases, no matter where we were."

California, which had suffered two major earthquakes and three other natural disasters in a 7-month period, has invested in a mobile fax machine. On most days, in the thick of emergency restoration work, Brown sent out brief advisories on what SCS was doing. Often the media picked up on this and visited the sites.

SCS invited media representatives to activities where the story or visuals seemed appropriate. The Bay City News Service kept other media posted on SCS activities.

About 10 days after the fire, SCS employees held a soil erosion control demonstration for homeowners. Representatives from all the English-language television stations in the San Francisco and Sacramento areas attended.

"Now, if we could only get half as much attention for preventive watershed health programs as we did for post-trauma diagnosis and treatment!" Brown said.

and protect homes and lakes that were vulnerable to potential mudslides and flooding.

The first order of business for SCS was reseeding 1,400 of the most fire-damaged acres with a mix of three grasses, a clover, and two wildflowers.

Next, SCS conservationists, Oakland city engineers, and workers from the California Conservation Corps enlarged and extended

culverts, cleared obstructed water channels, and positioned straw bales to direct water.

A year later, the lush green Oakland hills, flecked with orange and blue wildflowers, look like a hiker's delight, despite the blackened cement slabs that mark former home sites.

"I wouldn't have believed that things could be streamlined so well—that so much could be done in so little time," said Cerna, summing up the SCS recovery effort.

▲ Al Cerna, SCS district conservationist, second from left, and SCS engineer Howard Mueller, right, review watershed protection plans with local official Maeo Tjoe, left, and Jeff Geist, supervisor for a construction firm. (Tim McCabe photo; 0992-09)

Improved Data Gathering To Aid 1992 NRI

THE 1992 National Resources Inventory (NRI) effort will increase inventory efficiency and create a unique and powerful data base.

This data base will feature site-specific natural resource information for three points in time—1982, 1987, and 1992; link to the Soil Conservation Service's soil characteristics and interpretations data bases; and link to numerous other data bases.

The 1992 NRI will allow U.S. Department of Agriculture and SCS officials to examine effects of significant occurrences during the mid-1980's, such as widespread droughty conditions in portions of the West and extensive flooding in other regions.

The NRI provides a record of the Nation's conservation accomplishments and future program needs.

Extensive use of projections derived from the 1992 NRI is planned, such as supporting the 1995 farm bill deliberations. The 1992 NRI data will be the basis of conservation provisions of this coming legislation.

Collection of the NRI data is well underway. Data collection teams headed by SCS State resources inventory specialists use remote-sensing techniques and photo-interpretation.

The 1992 NRI stresses the concept of a continuous inventory process, data-entry software designed to improve the quality of the data, increased emphasis on training, and nationwide georeferencing of all sample site locations.

Georeferenced data includes roads, streams, soils, and other location points.

The first resources inventory, the 1934 National Erosion Reconnaissance Survey, determined the location and degree of wind and water erosion. In 1942, the Conservation Needs Inventory provided the agency with existing data from many outside sources.

Unlike the previous inventories, the NRI uses selected scientific data. It is a multisource inventory based on soils and other resource data collected throughout the country. It presents integrated information on land cover/use, conservation needs, and the physical characteristics of the land.

The NRI in 1977 and in 1982 determined status and condition of the resource base. The 1982 NRI was used to formulate some of the provisions of the 1985 Food Security Act (FSA). The NRI in 1987 was designed to obtain data that would

provide a basis for detecting trends in resource conditions from 1982. During the mid-1980's, changes in long-term trends were noted in resource conditions.

Data can be analyzed at such substate levels as major land resource areas, water resources council subriver basins (hydrologic units), and SCS administrative areas (multicounty).

The national resources inventory information system (NRIIS) data-entry software supports data collection teams conducting the 1992 inventory. Field personnel use NRIIS to gather, edit, manage, and move NRI data; it creates, distributes, and utilizes NRI information.

A second component of NRIIS is the data access. This software tool locates and analyzes NRI data that can be important in determining resource policy at the State and regional levels.

Remote-sensing technology is now being used to collect and interpret 1992 data without visiting the field site. The data is verified through various forms of imagery, photo-interpretation keys, and ancillary materials such as vegetation calendars.

The geographic information system (GIS) can improve efficiency of 1992 data collection and analysis. GIS expands NRI analytic capabilities.

The NRI provides a record of the Nation's conservation accomplishments and future program needs.



With data gathered from the 1992 National Resources Inventory, SCS district conservationists like Ron Sites, right, will be able to give more thorough information on land cover/use, conservation needs, and the physical characteristics of the land to landowners like Knoxie Hall of Pulaski County, Ark. (Gene Alexander photo; 0992-10)

Georeferencing primary sampling units is a significant step in applying GIS technology to the NRI. GIS can link the NRI to other georeferenced data bases. In addi-

tion, GIS technology facilitates the production of analytic color maps. (See article on GIS in the March-April 1992 issue of *Soil & Water Conservation News*.)

Contributing authors from the SCS Resources Inventory Division, Washington, D.C.: J. Jeffery Goebel, Marjorie Harper, and Monica McKay.

Steep Watersheds With Exotic Names

AÑASCO," "La Plata," "Güayanes," "Loiza," and "Toa Vaca"—these are not the names of exotic islands, but of small watershed projects developed to improve the quality of water in Puerto Rico.

This Caribbean Area island is divided into seven principal hydrologic watersheds. The Soil Conservation Service has subdivided them into 52 major watersheds and 113 sub-hydrologic watersheds.

Within these sub-hydrologic watersheds are 118 areas that have potential as small watershed projects. This identified potential may qualify the sites for USDA technical and financial assistance to deal with water quality concerns.

Now underway are erosion- and sediment-control measures and efforts to reduce floodwater damages that will initially improve the island's water quality.

In the Añasco River watershed, a site of nearly 130,000 acres (about 200 square miles) in west-central Puerto Rico, land treatment and structural measures are helping control flooding and sediment damage to flood-prone areas such as the outlet of La Puente Creek.

Damaging floods occur three or four times a year on the La Puente and the nearby Dagüey River. Floods occur every 2 years on the Añasco River itself, inundating about 7,500 acres each time.

In October 1991, SCS completed and turned over to local government agencies a sediment- and flood-control project (of completed measures) in the Añasco watershed.



Damaging floods occur every year in Puerto Rico's Añasco River watershed. Structural measures being built to control flooding and sediment damage include gabion (wire) cages at the river outlet. (Becky Fraticelli photo; 0992-11)

"On 40- to 60-degree slopes, they farm pigeon peas and pumpkins and grow grass for beef cattle."



Land treatment is especially important in Puerto Rico because of precipitous terrain. José Gigliotti grows peppers on his steep lands. Other crops grown on such terrain include sweetpotatoes, plantains, and pumpkins. (Becky Fricicelli photo; 0992-12)

"These eight basins will catch and store sediment before it reaches the La Puente channels," said Warner Irizarry, SCS Caribbean Area staff engineer. "The sediment is removed and disposed of periodically in order to maintain the efficiency of each basin."

Toa Vaca Lake, on the south side of Puerto Rico, was built in 1972. Originally, it had 50,000 acre-feet of storage, but nearly 20 percent has now been lost to sediment deposition. Excessive sheet and rill erosion on adjacent lands is causing a soil loss of over 600,000 tons annually.

"We have 17 active, signed contracts for conservation programs for accelerated land treatment," said Fernando Arroyo, SCS district conservationist of the Juana Diaz

field office. "These farmers live on farms which border the Toa Vaca watershed. On 40- to 60-degree slopes, they farm pigeon peas and pumpkins and grow grass for beef cattle."

Ambitious land treatment and structural measures are planned for the La Plata watershed, in north-central Puerto Rico, and the Güayanes River watershed, in the commonwealth's southeast corner. But problems with local authorization and funding assistance are delaying progress.

Loiza Lake has animal-waste and nonpoint-source water pollution. This hydrologic unit with a 100,000-acre watershed provides nearly 60 percent of the water to the San Juan metropolitan area. Loiza's seven tributary streams are polluted by livestock waste and excessive sediment loads.

The water-quality management plan proposes to reduce 85 percent of chemical, organic material, and pesticide contamination. It would also reduce annual sediment deposition into unit waters by over 1 million tons. This would save \$1.2 million for the agro-industry of the area.

SCS has plans to improve water quality in the Caribbean Area between 1992 and 1995. And the Añasco, Toa Vaca, and Güayanes are just a few of the locations in Puerto Rico where SCS will be helping landowners who farm 40- to 60-degree slopes.

Becky Fricicelli, public affairs specialist, Caribbean Area, SCS, Puerto Rico.

The lens...provides 98 percent of Guam's drinking water. Yet pollution can reach [it] in 24 hours, unless checked and controlled.

On Guam They Farm Atop A Giant Lens

ON GUAM, farmers irrigate from a giant lens—sort of a huge dishpan of underground fresh water. Atop the lens, the soil depth averages 4 inches. Below, it is porous limestone. And surrounding it is a "desert" too salty for irrigation use.

The lens, located in the northern part of this Pacific Ocean island, provides 98 percent of

Guam's drinking water. Yet pollution can reach these drinking supplies in 24 hours, unless it is checked and controlled.

Farmers in the recharge area over the water lens are concerned with ground water quality. Working through the Northern Guam Soil and Water Conservation District, they formed partnerships with Federal agencies, including the Soil Conservation Service, and local agencies on Guam to help protect the water lens, both now and in the future, from the risk of contamination or pollution by agricultural activities.

Agriculture is a significant industry in the recharge area. Besides growing "truck" vegetable crops, farmers operate piggeries

and poultry farms. Plans are being made for a slaughterhouse, which not only will promote agricultural growth on Guam but also will increase problems associated with the dispensing of animal wastes.

Using the team approach, representatives from the U.S. Department of Agriculture's Agricultural Stabilization and Conservation Service office in Hawaii and local offices of the Cooperative Extension System, Environmental Protection Agency, and SCS worked with farmers and local district board officials to prepare suggestions and formalize plans.

Farmers are being encouraged to install mixing stations to protect against concentrated spills of pesticides; to implement pesticide, fertilizer, and irrigation water management techniques; and to install animal waste management systems.

Pamphlets and workshops are being planned to help educate farmers and other landowners about these measures. Local funding and engineering assistance will be investigated.

A proposal has been prepared, submitted, and approved, and is awaiting Federal funding which will help the partners protect this island's precious water resource.

Rhoda Portis, district conservationist, SCS, John Day, Oreg.; formerly in Guam SCS field office, Pacific Basin, USDA



Northern Guam Soil and Water Conservation District cooperator Hugo Ganges grows sweetpotatoes and other "truck" vegetable crops in his fields. (G. G. Yamanaka photo; 0992-13)

“...we target specific problems identified by the SRDC. This avoids a lot of duplication, overcomes losses through piecemeal efforts, and better uses existing resources.”

SCS Teams Up on Rural Assistance

IN RURAL AREAS across the United States, the Soil Conservation Service is a key player on the newly formed State rural development councils (SRDC). These teams help solve resource and economic concerns for people in rural communities and counties.

SCS State conservationists apply their planning backgrounds and leadership skills by serving on SRDC executive committees. Their staffs may serve on subcommittees and task forces.

The potential exists to change the way Federal programs are delivered and—through teamwork and partnerships—to help rural areas more directly and effectively.

Changes like this begin by getting all the “right” players together to solve problems. Among its many roles, the SRDC helps gather such players to talk and think and then act.

As part of the President’s Initiative on Rural Development, pilot SRDC’s were formed in 1990 in eight States: Kansas, Maine, Mississippi, Oregon, South Carolina,

South Dakota, Texas, and Washington. SRDC’s are now being formed in the remaining States.

“In Maine, we work together on projects coordinating Federal and State technical assistance,” said Dave Musselman, SCS State conservationist for Maine. “Then, along with financial resources, we target the assistance to specific problems identified in the SRDC’s strategic plan. This avoids a lot of duplication, overcomes losses through piecemeal efforts, and better uses existing resources.”

Although each SRDC is organized differently, SRDC committees typically address natural resource development, leadership, physical infrastructure, environment, human infrastructure, and business development.

SRDC’s produce council action projects that are:

- Innovative—they address new approaches for greater efficiency and effectiveness;
- Transferable—they have approaches that can be used elsewhere or adapted to different situations;
- Collaborative—they interact between Federal, State, local, and tribal governments; private organizations; and nonprofit organizations; and
- Targeted to rural citizens.

Council action projects may address such rural-area concerns as low incomes; environmental problems; limited socioeconomic

opportunities; minority and ethnic community difficulties; the elderly; and limited facilities for cultural, educational, health, transportation, recreation, and communication needs.

“SCS in Kansas worked with the U.S. Department of Transportation, various sponsor groups, and several State agencies on a council action project to change the timing and funding for construction of a Public Law 566 flood-water-retarding structure and a federally funded highway,” said James Habiger, SCS State conservationist for Kansas.

“The objective was to commit to build the dam and the highway bridge at the same time,” Habiger explained. “We did it, and it will save about a quarter of a million dollars.”

SCS is using the resource conservation and development program in Mississippi to help develop a recreation master plan for a 6,000-acre area on a 50-square-mile lake in Panola County. The council action project helped pull together the U.S. Department of Commerce’s Economic Development Administration, the U.S. Department of Agriculture’s Farmers Home Administration, several State and local agencies, and SCS.

SRDC’s use a problem-solving approach to planning; it is process- and results-oriented, not program-specific. This is a new way of oper-

Schooling Prepares SCS Planners

Three new training courses are available now for Soil Conservation Service personnel to improve their skills as professional resource project planners, or to be trained as new planners.

The courses, which both instructors and students (trainees) have compared to upper-division, college-level studies, cover aspects of natural resource projects: (1) Planning Process; (2) Planning Report (Content and Preparation); and (3) Planning Policy and Administration.

During the 1980's, only 20 States had full SCS planning staffs. Retirements and transfers had depleted the core of the planning staffs.

The demand on SCS to provide total planning assistance on natural resource projects was becoming greater than ever. Watershed planning, for example, was shifting from structural to

nonstructural solutions. And planners were looking at total resource problems.

The courses consist of lesson plans, instructor materials, student notes, gathered reference materials, case studies, and problem-solving materials. Instructors are top-rated planners from across the country. SCS continually updates the course materials, visual aids, and planning exercises.

Pilot courses, held in 1989, were spectacularly successful—so much so that the planning process and planning report courses had to be combined temporarily to accommodate the demand.

This "combined" course teaches students to use the SCS planning process to assist sponsors/clients in preparing (1) project plans and (2) reports of their decisions in order to document the planning. Students learn to define problems and present alternatives.

The planning policy course trains new program managers in SCS policies and procedures for administering water resource programs.

The "combined" course was taught in Arkansas, Idaho, Maryland, Michigan, and Oklahoma in 1992. Planning policy and administration was given in June 1992 in Denver, Colo.; program managers, staff leaders, deputy State conservationists, and State conservationists attended.

State conservationists in many other States are asking to host these courses. They want to provide training not only to planning staff members but also to State resource conservation staffs and to field personnel who carry out project resource planning.

E. B. Dyer, river basin program coordinator, SCS, Washington, D.C., and **Mike Woodson**, water resource planning specialist, SNTC, SCS, Ft. Worth, Tex.

ating for many people and many agencies.

An evaluation is planned next year to assess how effective SRDC's are in helping rural areas. Outcomes achieved, such as values and benefits to the communi-

ties and their people, will be indicators of SRDC accomplishments.

"Rural Americans need assistance, and the platform that State rural development councils provide allows more effective use of all resources in a coordinated way," said William Richards, Chief

of the Soil Conservation Service. "I certainly encourage our continued support and active participation as players on these teams."

Carl E. Bouchard, assistant director, basin and area planning, SCS, Washington, D.C.

NEWS



New Conservation District for American Samoa

The country's newest conservation district is the American Samoa Soil and Water Conservation District. A district board has been appointed by the Governor and a Soil Conservation Service district conservationist has been assigned to the area to provide technical support.

The island's soil survey shows that soils vary noticeably among the three regions: the mountains, valley, and plain. Subsistence farming predominates. Crops are grown to feed the family or for gifts. The main crops are taro, bananas, breadfruit, and coconuts.

American Samoa is 76 square miles, about the size of Cleveland, Ohio. Its population is less than 40,000.

Farmers Express Their Opinions

Survey responses from a group of Iowa farmers indicate that a "team approach" would be most effective in reaching them with information about soil conservation.

The 1991 Conservation Survey of nearly 2,000 Iowa farmers showed that farmers are more likely to consult with one another

before making a change in operations. In making decisions about crop residue management, they're likely to turn to chemical dealers and to implement dealers.

It also showed that the majority of Iowa farmers are committed to completing their conservation plans on schedule; they support the idea of conservation compliance; and they understand their conservation plans.

"Farmers recognize solid sources of information," said Jeff Vonk, State conservationist for the Soil Conservation Service in Iowa. "They look to SCS for rules on compliance, for instance, but they're going to go to other farmers and dealers for much of the 'how to' on management. That tells us we need to be working with industry in trying to get conservation concepts across to farmers."

Steve Padgett, an Iowa State University sociologist, analyzed the survey; below are some of his observations about implementing conservation compliance.

Although most farmers believe they can complete compliance plans on schedule, nearly three-fourths say they need additional assistance of some kind. One-half of the producers indicated cost-share funds are needed to implement their conservation plan.

Farmers need more information on how to overcome their critical concerns about no-till. They also want information on crop rotations and tillage changes.

Because those having problems meeting compliance on time are more reluctant to seek help from SCS and the USDA Extension Service, Padgett suggests these agencies find ways to assure that assistance is non-threatening, non-intimidating, and supportive. He also suggested they maximize their efforts by assuring that those farmers who are more likely to contact other farmers and dealers possess the technical knowledge and interpersonal skills necessary to be effective teachers.

The survey was sponsored by the Iowa Association of Soil and Water Conservation District Commissioners. Complete survey results are available from the Iowa SCS State Office, 693 Federal Building, 210 Walnut Street, Des Moines, IA 50309.

Colleen Weinzel, public affairs specialist, SCS, Des Moines, Iowa

SCS Revises Guidelines on Restoring Wetlands

There's good news for farmers who want to restore or create a wetland. The Soil Conservation Service has revised its National Engineering Field Handbook chapter on wetlands. The agency's conservation planners can now provide

farmers with more effective assistance concerning wetland development.

The chapter, entitled "Wetland Restoration, Enhancement, or Creation," describes the planning, design, implementation, maintenance, and monitoring phases of wetland restoration, enhancement, and creation projects of all sizes.

The earlier wetland guidelines were over 20 years old. Changes in SCS priorities, approaches, and applications are reflected in this 1992 revision. It has also set a new format and design precedent for future technical publications.

The chapter covers the three categories of wetlands: wetland restoration, wetland enhancement, and wetland creation. The six major kinds of wetlands discussed include: leveed, pothole, floodplain, freshwater, riparian, and depressional.

The Corps of Engineers, Fish and Wildlife Service, Environmental Protection Agency, Tennessee Valley Authority, Office of Surface Mining, Forest Service, and SCS, as well as State and private sources, contributed to the chapter.

News Briefs is compiled and edited by Kim Berry-Brown, contributing editor, *Soil & Water Conservation News*.

America's Renewable Resources: Historical Trends and Current Challenges

Edited by Kenneth D. Frederick and Roger A. Sedjo

Much can be learned about current situations and possible future problems through studying the past. This book examines historical trends in the condition and capability of the Nation's water, forest, rangeland, soils and cropland, and wildlife resources.

Resource use and management is traced over the last 200 years. Also considered are influences of changing demands, technologies, management systems, and institutions on renewable resources.

Each major subject is covered in a chapter:

- Water availability shaped economic development during the 19th century, and technological advances brought additional changes, uses, and benefits in the 20th century.

- The extent of forest resources was compared over 200 years. Around 1920 was judged to be the nadir in the condition of the Nation's forests. Subsequent improvement resulted from declining land clearing and improved forest fire control, technology, and management practices, among other reasons.

- Settlers pushing westward in the 19th century caused a decline in

rangeland in the 1880's. Conversion of rangeland to crop production reached its zenith in the 1920's and 1930's. Public versus private ownership of western range remains contentious.

- Conversions into cropland and the ups and downs of crop yields continued through the 1930's. Crop production doubled from the 1930's through the 1980's.

- Soil erosion became a dominant concern during the 1930's, with effects being measured in soil productivity and in off-farm water quality. Sedimentation and fertilization have since become troublesome.

- Land conversions to forests, range, and crops and then to urban uses have reduced wildlife and its habitat. Predator control and introduced plant and animal species caused further declines.

- Outdoor recreation has become one of the most voracious users of land and water resources. Automobile improvements, increased leisure time and income, and additions to park areas have dramatically accelerated such recreation.

Conclusions are that the long-term production potential of the Nation's renewable resources is vulnerable, and resources are renewable only within limits and under wise management. The challenge, then, is to balance competitive and changing demands, both commodity and noncommodity, on the Nation's renewable resources, while ensuring they are managed on a long-term sustainable basis.

This 300-page, October 1991 publication is available for \$34.95 (cloth) and \$19.95 (paperback)

from Resources for the Future,
1616 P Street NW., Washington, DC
20036; telephone 202/328-5000.

Ancient Forests Of the Pacific Northwest

By Elliot A. Norse

This book provides a global context for what is happening in the Pacific Northwest. The remaining ancient forest and the threats to it from atmospheric changes and logging are analyzed.

Included are examples of sound forestry practices that could save the remaining forest. The author describes how the Pacific Northwest could become a model for sustainable forestry worldwide.

This book offers:

- The first comprehensive assessment of the biological value and vulnerability of these forests; and
- A detailed, yet readable discussion of forest ecosystems, their species, and their relationship to one another and their physical environment.

The author recommends new forestry techniques, studies of global change, and appointing an ancient-forest commission.

This 300-page, illustrated, 1989 publication is available for \$34.95 (cloth) or \$19.95 (paper) from Island Press, Box 7, Covelo, CA 95428; telephone 1-800/828-1302.

New in Print is prepared by Paul G. DuMont, associate editor, *Soil & Water Conservation News*.

Conservation Calendar

September

9-11 Southwestern National Association of Conservation Districts Regional Meeting, Albuquerque, N. Mex.; contact: NACD 202/547-6223

13-16 Pacific National Association of Conservation Districts Regional Meeting, Bellevue, Wash.; contact: NACD 202/547-6223

13-16 Association of State Dam Safety Officials Annual Meeting, Baltimore, Md.; contact: ASDSO 606/429-0300

13-19 National Farm Safety Week

14-17 American Fisheries Society Meeting, Rapid City, S. Dak.; contact: AFS 301/895-8616

19 National Hunting and Fishing Day

26-30 National Association of State Departments of Agriculture Annual Meeting, Indianapolis, Ind.; contact: NASDA 202/628-1566

October

Clean Water Month

2 World Farm Animals Day

14 World Food Day

18-25 National Forest Products Week

19 International Symposium on Soil and Water Conservation, Honolulu, Hawaii; contact: SCS 202/720-5063

27-30 3rd International Wildlife Ranching Symposium, Pretoria, South Africa; contact: Agricultural Attaché 202/966-1650

November

1-4 Irrigation Association's 1992 International Irrigation Exposition and Technical Conference, New Orleans, La.; contact: Martha Lindauer 703/524-1200

2-3 Agriculture 2000: A Strategic Perspective National Conference, Purdue University; contact: Betty Ottinger 317/494-4247

8-12 Society of Environmental Toxicology and Chemistry 13th Annual Meeting, Cincinnati, Ohio; contact: Donald Versteeg, 513/627-6468

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